

Title (en)  
TURBINE ROTOR AND TURBOCHARGER INCORPORATING SUCH TURBINE ROTOR

Title (de)  
TURBINENROTOR UND TURBOLADER MIT SOLCH EINEM TURBINENROTOR

Title (fr)  
ROTOR DE TURBINE ET TURBOCOMPRESSEUR INCORPORANT UN TEL ROTOR DE TURBINE

Publication  
**EP 2960463 A4 20160413 (EN)**

Application  
**EP 13875417 A 20130222**

Priority  
JP 2013054565 W 20130222

Abstract (en)  
[origin: EP2960463A1] A turbine rotor comprising: a turbine wheel 5 obtainable by precision casting of titanium aluminide, including a hub 50 extending along a rotational center of the turbine wheel, and a plurality of impellers 40 arranged along a circumferential direction around an outer circumference of the hub, and having a web-like scallop 30 formed by making a cutout between adjacent impellers among the plurality of the impellers; and a rotor shaft 7 extending along the rotational center line C-C of the turbine wheel on a back side of the hub of the turbine wheel; wherein the turbine wheel has a balance cut portion 11 arranged along the circumferential direction of the rotational turbine wheel on the back side of the hub of the turbine wheel, wherein an area of the balance correcting part arranged in the circumferential direction is placed so that a balance cut minimum diameter BCmin is larger than a maximum diameter of the rotor shaft on the wheel mounting side, and that a balance cut maximum diameter BCmax is smaller than a scallop diameter S of the turbine wheel, and that a thickness t from the back side of the turbine wheel to a surface of the hub satisfies  $1.75t \leq w$ , where w is a width in a radial direction of the area arranged in the circumferential direction (i.e. balance cut).

IPC 8 full level  
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Citation (search report)

- [I] EP 2476861 A1 20120718 - MITSUBISHI HEAVY IND LTD [JP]
- [A] JP 2003302304 A 20031024 - MITSUBISHI HEAVY IND LTD
- [A] JP S63198702 A 19880817 - TOYOTA MOTOR CORP
- [A] JP 2002047944 A 20020215 - TOYOTA MOTOR CORP
- See references of WO 2014128930A1

Cited by  
EP3428392A1; FR3100562A1; EP4311911A1; EP3751097A1; US10443387B2; US11603762B2; WO2018019401A1; WO2019072408A1; US11933185B2; WO2021044022A1

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